

THE NAME OF THE TYPE SPECIES OF *SIMULIUM* (DIPTERA: SIMULIIDAE): AN HISTORICAL FOOTNOTE¹

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ABSTRACT: The proper original description of the type-species of the genus *Simulium*, *S. colombaschense* (Scopoli), is identified and the current spelling of the species name is confirmed.

INTERPRETATIVE SUMMARY: Black flies are among the most important biting flies, annoying humans and their livestock since the beginning of recorded time. The scientific names associated with the Golubatz fly, a notorious pest of the Danube Basin, are re-evaluated and the valid name confirmed. This will allow historical information on the Golubatz fly to be properly utilized.

Black flies are among the most important biting flies. Black flies have annoyed humans and their livestock since the beginning of recorded time. More than three-quarters of the world's black flies belong to the nominal-typic genus *Simulium*. The type-species of that genus was a notorious pest on the "Bannat," the middle region of the Danube basin. This species was commonly known as the Golubatz fly (or Kolumbatzer mücken). As such, much has been written about this pest. Unfortunately, in the early days of scientific nomenclature this information was associated with different names. Hence, the status and relationships of these names are critical. Crosskey and Howard (1997: 90, also Crosskey 1990: 17-18), in the most recent and comprehensive inventory of the world black flies, have fully and properly analyzed the confusion about these names. They note that this fly was first properly and formally named under the current system of zoological nomenclature by Linnaeus (1771: 541) as *Culex lanio*, but this name was forgotten, perhaps because it was published in an appendix to a botanical work. Crosskey and Howard, therefore, correctly and properly declare that this species should remain known by its Fabrician name, as that is the one most workers have used for the past 200 years. While I agree with this conclusion, this footnote corrects another 200 year old error, that is, Fabricius did not himself name the Golubatz fly, but merely misspelt the name proposed originally by Scopoli.

Linnaeus, in establishing an improved system for naming organisms, wrote a set of guidelines for those who would use his system (Schmidt 1952). These

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guidelines were published in all the early versions of his *Systema Naturae*, but on reaching the 10th edition, Linnaeus deleted these guidelines, perhaps because he felt by then they were well known to all workers. Unfortunately, in retrospect, the zoological community accepted the 10th Edition of the *Systema Naturae* as the starting date for zoological nomenclature. Hence, modern workers never bother to examine earlier editions and, thereby, the Linnaean guidelines are completely forgotten. For our tale, the important guidelines were 2 & 3, where Linnaeus declared that the synonyms of all prior workers should be given. Fabricius was a student of Linnaeus, and largely followed these guidelines. For *Simulium colombaschense* (which in 1787, Fabricius placed in the genus *Rhagio*), Fabricius (1787: 233) listed two synonyms and references to their source (figure 1). Unfortunately, subsequent workers have largely ignored these references. The first reference was to *Bibio sanguinarius* Pallas (1771). Crosskey and Howard (1997: 93) correctly noted that Pallas's name, *sanguinarius*, was based on a pest from the Russian Volga, rather than the Danube. Hence, the synonymy of this name (*sanguinarius*) with *colombaschense* by Fabricius was incorrect, as *colombaschense* is restricted to the Danube. So, the synonymy of *sanguinarius* by Pallas himself (1776 in an errata page at the end of the volume) under the Linnaean species, *reptans*, is probably correct (Crosskey and Howard cited the later synonymy by Olfers (1816), who also placed *sanguinarius* as a synonym of *retans*). The second reference is to *Oestrus columbacensis* Scopoli in Grisellini (1780). This reference was expanded in the next edition of *Systema Naturae* (Gmelin 1790: 2866 #324 *Musca colombaschenis*; fig. 2) as "Grisel. hist. temef. *Oestrus columbacensis*." Unfortunately for modern workers, these references are obscure. Although today, one can decipher these citations by using bibliographies of those times, such as Dryander (1796-1800) and Cobres (1782). However, to the workers of those days, these references were clearly understood to refer to Franz Grisellini's compendium on the Bannat (Grisellini 1780), which includes a "letter" (= chapter) by Scopoli (1780) on the pest insects found in this area.

What are the consequences of the above? Under the current rules of zoological nomenclature, the Fabrician name, *colombaschensis*, is merely a subsequent misspelling of the valid name first proposed by Scopoli, *Oestrus columbacensis*. Hence, the name of the type species should be *Simulium columbacensis* (Scopoli). Or if workers want to maintain the current spelling, given the minor difference in spelling of *columbacensis* ("u" instead of "o" and no "h" or "s") being important enough, then Gmelin's (1790) emendation could be accepted as justified. The justification would be based on the fact that Scopoli used the German spelling of *Kolombashischen Mucken* in his title. However, to change the authorship from Scopoli to Fabricius would require the use of the Plenary Powers of and action by the International Com-

CLAS. VIII. ANTLIATA. Rhagio. 333

8. R. thorace ferrugineo, abdomine atro: maculis latera- *flavipes*,
libus flavis.

⋮

15. R. ater, abdominis incisuris tibiis tarsisque albis. *colomba-*
Bibio sanguinarius Pall. Itin. 1. App. 23. *schenfis.*
Oestrus Griffl. itin.

Habitat in Seruia, Bannatu in initio veris et sub fine
aestatis copiosissime proueniens, obruit pecora et in-
trat partes nobilissimas venenatoque morfu intra 4-5
horas ea enecat. Arceitur fumo.

Culi-

1. Fabricius 1787

2866 INSECTA DIPTERA. Musca. Rhagio.

bilineata. 320. M. nigricans, thorace cinereo: lineis duabus nigris, alis
hyalinis: maculis marginalibus nigris. *Fabr. mant. inf.*
2. p. 333. n. 10.

Habitat Kilonii, parua, abdomine plano, femoribus testaceis.

⋮

colomba- 324. M. atra, abdominis incisuris tibiis tarsisque albis. *Fabr.*
schenfis. *mant. inf.* 2. p. 333. n. 15.

Griffl. hist. temf. *Oestrus columbacensis.*

Pall. it. 1. app. n. 23. et n. nord. Beitr. 2. p. 346. *Bibio*
sanguinarius.

Habitat in Temesza, Seruia, Russia et Sibiria australi, veris
initio aestatisque sine copiosissima, pecora obruens, parter-
que nobilissimas intrans, morfu intra 4-5 horas letali,
fumo arcendo, culice pipiente duplo minor.

2. Gmelin 1790

Figs. 1-2. Taxonomic descriptions of *Simulium colombaschense* (Scopoli). 1. Page from Fabricius (1787). 2. Page from Gmelin (1790). Note that both pages have been truncated, with the irrelevant material removed.

mission on Zoological Nomenclature. Given that the author is not part of the scientific name and is being used less and less by field workers, such an application to the Commission would serve no useful purpose. The proper synonymy for the Golubatz fly is:

Simulium colombaschense

Culex Ianio Linnaeus 1771: 541. *Nomen oblitum*.

Oestrus columbacensis Scopoli 1780: 133.

Rhagio colombaschensis Fabricius 1787: 333. Misspelling of *columbacensis* Scopoli

Musca colombaschensis Gmelin 1790: 2866. Justified emendation of *columbacensis* Scopoli. ... and other more recent synonyms as cited by Crosskey and Howard.

In summary, everyone should be aware that the story of the Golubatz fly is not complete without considering and including Scopoli's 1780 contribution. That contribution has been overlooked because subsequent workers have not taken the time to analyze Fabricius' synonymy of *Rhagio colombaschensis*!

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SOCIETY MEETING OF OCTOBER 25, 2000

THE IMPACT OF IMPORTED PARASITIC MITES ON HONEY BEES AND WHAT IS BEING DONE TO MANAGE MITES AND ADDRESS POLLINATION CONCERNS

Maryann Frazier
Penn State University

Senior extension associate, Maryann Frazier, discussed the recent introduction of two parasitic mites (*Varroa* and tracheal) and the diseases associated with these mites, which have placed the U.S. beekeeping industry in serious jeopardy. Because state-supported research and extension on honey bees is declining in the northeastern U.S., researchers and extension specialists from several states have banded together to develop a regional program to combat the new problems.

Over ninety crops depend on or benefit from honey bee pollination, and the yields and quality of many fruit and vegetable crops are threatened by the mites and diseases that harm honey bees. Approved chemical treatments for the control of these mites are limited, and *Varroa* mites are showing widespread resistance to the one approved general use chemical control agent. As an alternative to chemical treatments, entomologists from the Mid-Atlantic Apiculture Research and Extension consortium (MAAREC) are working to develop an IPM (integrated pest management) approach to honeybee mite management. IPM approaches being worked on by MAAREC scientists thus far include the identification of thresholds, control tactics such as the use of screen bottom boards, requeening with queens resistant to mites and diseases, the use of biorational agents such as essential oils, and other mite reducing techniques. Researchers are also investigating the role that viruses are playing in the declining health of honey bees. In addition, the consortium's work includes some research on alternative pollinators such as *Osmia cornifrons* (the hornfaced bee).

In notes of entomological interest, Hal White showed slides of a bolas spider (*Mastophora bisaccata*), taken at Insect Field Day. He reported that some bolas spiders include a female moth pheromone in their lures and catch only male moths. Hat also mentioned a recent article in the *Wilmington News Journal* on dragonfly watching.

President Gelhaus reported that the attendance at Insect Field Day was approximately one hundred.

William J. Cromartie
Corresponding Secretary